WAR 28 TOTE OF THE PERSON OF T

PTO/SB/21 (09-04)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

1635 31 EFV

TRANSMITTAL FORM

(to be used for all correspondence after initial filing)

Typed or printed name

Paul K. Legaard

Application Number	09/734,847
Filing Date	December 12, 2000
First Named Inventor	C. Frank Bennett
Art Unit	1635
Examiner Name	Tracy Ann Vivlemore
Attorney Docket Number	ISIS0170-100 (ISPH-0524)

Total Number of Pages in This Submiss	ion	Attorney Docket Nu	mber	ISIS0170-100 (ISPH-0524)			
	ENCLO	SURES (check all that	apply)				
Fee Transmittal Form	☐ Drawing(s)			After Allowance Communication to TC			
Fee Attached	Licensing-related Papers			Appeal Communication to Board of Appeals and Interferences			
Amendment / Reply	Petition		Appeal Communication to TC (Appeal Notice, Brief, Reply Brief)				
After Final		Convert to a al Application		Proprietary Information			
Affidavits/declaration(s)		Attorney, Revocation of Correspondence Addre	ess	Status Letter			
Extension of Time Request	Terminal	Disclaimer		Other Enclosure(s) (please identify below):			
□	Request for Refund			- Table A			
Express Abandonment Request	CD, Numi	ber of CD(s)	 Statement Under 37 CFR 3.73(b) executed Assignments (2) 				
☐ Information Disclosure Statement	☐ Lar	ndscape Table on CD	- Return Postcard				
Certified Copy of Priority Document(s)	Remarks		•				
Reply to Missing Parts/ Incomplete Application							
Reply to Missing Parts under 37 CFR1.52 or 1.53							
SIG	NATURE OF	APPLICANT, ATTOR	NEY, O	R AGENT			
Firm	Cozen O'Conno	or, P.C.					
Signature	PAPI						
Printed Name	Paul K. Legaard						
Date	March 24, 2005 Reg. No.			38,534			
CERTIFICATE OF TRANSMISSION/MAILING							
I hereby certify that this corresponder Service with sufficient postage as fi Alexandria, VA 22313-1450 on the dat	rst class mail	in an envelope address	e USPTC sed to: 0	or deposited with the United States Postal Commissioner for Patents, P.O. Box 1450,			
Signature /	011			- Marie			

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Date

March 24, 2005

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Assistant Commissioner for Patents Washington, DC 20231

Sir:

POWER OF ATTORNEY WITH REVOCATION AND CHANGE OF CORRESPONDENCE ADDRESS

I hereby revoke all previous powers of attorney or auth	norizations of agent given in the
applications identified in Table A attached hereto, and appoin	t
Practitioners at Customer Number: 34138	PLACE CUSTOMER NUMBER BAR CODE LABEL HERE
as my/our attorney(s) or agent(s) to prosecute the application	identified above, and to transact

as my/our attorney(s) or agent(s) to prosecute the application identified above, and to transact all business in the United States Patent and Trademark Office connected therewith.

Please change the Correspondence Address for all applications identified in Table A to:

| X | Practitioners at Customer Number: 34138

I am the:
| Applicant/Inventor.
| X | Assignee of record of the entire interest. (A statement under 37 CFR 3.73(b) is enclosed.)

Respectfully submitted,

ISIS PHARMACEUTICALS, INC.

Date: 3/16/05

Name: Laura A. Handley
Title: Vice President



TABLE A

	ntisense				-	ıse	ıse	Ise	nse raries For	nse raries For	nse raries For pression	nse raries For pression	nse raries For pression tpression	nse praries For pression tpression	raries For pression pression ession
	Alteration Of Cellular Behavior By Antisense	Modulation Of mRNA Processing			Methods Of Obtaining Active Antisense	Compounds		Use of Antisense Oligonucleotide Libraries For	Identifying Gene Function	Antisense Modulation Of MYD88 Expression		Antisense Modulation Of TRADD Expression		Antisense Modulation Of WRN Expression	
ART UNIT	1635				1635			1635		1635		1635		1632	
EXAMINER ART UNIT	Tracy Ann	Vivlemore			Not yet	determined		Sean	McGarry	James	Schultz	Not yet	determined	Not yet	determined
INVENTORS	Bennett, Crooke,	Manoharan, Wyatt,	Baker, Monia,	McKay, Karras	Freier, Matveeva,	Tsodikov, Giddings,	Wyatt	Bennett, Borchers,	Каптаѕ	Karras, Dobie	,	Monia, Cowsert		Ward, Watt	
FILING DATE	December 12, 2000				October 15, 2003			August 23, 2001)	September 26, 2003 Karras, Dobi	•	January 26, 2004		April 28, 2004	1
SERIAL NO.	09/734,847				10/686,317			09/938.048		10/673,063	`	10/765,500		10/467,182	

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Assistant Commissioner for Patents Washington, DC 20231

Sir:

STATEMENT UNDER 37 CFR 3.73(b)

Applicant, ISIS Pharmaceuticals, Inc., a corporation, states that it is:

X the assignee of the entire right, title, and interest of the applications identified in Table A attached hereto.

The extent (by, percentage) of its ownership interest is 100% in the patent applications identified in Table A by virtue of:

a copy of the pertinent assignment from the inventor(s) of the patent applications identified in Table A is enclosed herewith.

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

Respectfully submitted,

ISIS PHARMACEUTICALS, INC.

Date: $\frac{3/16/05}{}$

Name: Laura A. Handley

Title: Vice President

PATENT

ASSIGNMENT

WHEREAS, We, C. Frank Bennett, of Carlsbad, State of California; Stanley T. Crooke, of Carlsbad, State of California, Muthiah Manoharan, of Carlsbad, State of California, Jacqueline Wyatt, of Encinitas, State of California, Brenda F. Baker, of Carlsbad, State of California, Brett P. Monia of La Costa, State of California, Robert McKay of San Diego, State of California; and James G. Karras, of San Marcos, State of California, have invented a certain invention entitled Alteration of Cellular Behavior by Antisense Modulation of mRNA Processing, for which we have made application for Letters Patent of the United States, said application having been filed December 12, 2000 and assigned Application No. 09/734,847; and

WHEREAS, ISIS Pharmaceuticals, Inc. hereinafter referred to as the assignee, of 2292 Faraday Avenue, Carlsbad CA, a corporation of Delaware, is desirous of acquiring the entire right, title and interest in and to the said inventions or improvements and in and to the said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in any and all countries:

NOW, THEREFORE, for and in consideration of the sum of One Dollar (\$1.00) to each of us in hand paid by said assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, we, the said assignors, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over to said assignee, the entire right, title and interest in and to said inventions or improvements and said application and any and all continuations, divisions and

PATENT

renewals of and substitutes for said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in the United States and any and all other countries, and any reissue or reissues or extension or extensions of said Letters Patent, and assign to and authorize said assignee, to file in our names applications for Letters Patent in all countries, the same to be held and enjoyed by said assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by us had this assignment, sale and transfer not been made.

AND we hereby covenant that we have full right to convey the entire interest herein assigned, and that we have not executed and will not execute any agreement in conflict herewith, and we further covenant and agree that we will each time request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said inventions or improvements, said application and said Letters Patent to said assignee, its successors, assigns, nominees, representatives, and each of us agrees to communicate to said assignee or to its nominee all known facts respecting said inventions or improvements, said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers to execute all disclaimers and divisional, continuing, reissue and foreign applications, to make all rightful oaths, and generally to do everything possible to aid said assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit proper patent protection for said inventions or improvements in any and all countries.

PATENT

AND we hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to said assignee, as assignee of the entire right, title and interest, any and all Letters Patent for said inventions or improvements, including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

IN WITNESS WHEREOF, we have hereunto set our hands and seals.

DATED: 2-15, 2001

C. FRANK BENNETT

State of California

ss.

County of San Diego

On this 15th day of 12th of 2001, before me, the undersigned, a Notary Public for the state, personally appeared C. Frank Bennett, personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that he executed the same in his authorized capacity, and that by his signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

WITNESS my hand and official seal.

LANE B.D. SCHWARTZ
Commission # 1196197
Notary Public - California
San Diego County
My Comm. Expires Sep 13, 2002

Signature of Notary

		///	
DOCKET NO.: / ISPH-0524			PATENT
DATED: $2 \left(\frac{0}{0} \right)$, 2001	STA	NVEY T. CROOKE	
State of California)		
County of San Diego) ss.)		
On this undersigned, a Notary Stanley T. Crooke, personal same in his authorized Assignment the person, acted, executed the Assignment and the same in his authorized and the same in his authorized acted.	onally known nce to be the nd acknowledge capacity, an or the entity	to me/p roved to ne person who ed to me that d that by his s	me on the basis subscribed the he executed the ignature on the
LANE B.D. SCHWARTZ Commission # 1196197 Notary Public - California San Diego County My Comm. Expires Sep 13, 2002	Jano	hand and offici	al seal.
DATED: Feb 01, 2001	мут	Arusaiah /	nesher
State of California)) ss.		
County of San Diego)		
On this 154 undersigned, a Notary Muthiah Manoharan, personal states of satisfactory the foregoing Assignment executed the same in his/her signature on the behalf of which the personal states of the same in his/her signature on the	sonally known evidence to be nt and acknown is/her author he Assignment	to me/ proved t e the person wh ledged to me th ized capacity, the person, or	o me on the o subscribed at he/she and that by the entity on
LANE B.D. SCHWARTZ Commission # 1196197 Notary Public - Californic San Diego County My Comm. Expires Sep 13, 20	2 MUL 2 Eignature o	hand and offici	al seal.

DOCKET NO.: ISPH-0524	PATENT
DATED: <u>1/5/61</u> , 2001	Jacqueline WYATT
State of California) ss.	
County of San Diego)	
Jacqueline Wyatt, personally kn hasis of satisfactory evidence the foregoing Assignment and ac the same in her authorized capa	to be the person who subscribed knowledged to me that she executed city, and that by her signature on he entity on behalf of which the
Commission # 1196197 Notary Public - California San Diego County Av Comm Ereics San 13 2000	my hand and official seal. The of Notary BRENDA F. BAKER
State of California)) ss.	
County of San Diego)	1
On this $\frac{\sqrt{87}}{\sqrt{87}}$ day of undersigned, a Notary Public fo Brenda F. Baker, personally kno	February, 2001, before me, the r the state, personally appeared wn to me/proved to me on the basis
of satisfactory evidence to be foregoing Assignment and acknow	the person who subscribed the ledged to me that she executed the , and that by her signature on the ntity on behalf of which the
LANE B.D. SCHWARTZ Commission # 1196197 Notary Public - California San Diego County My Comm. Expires Sep 13, 2002	my hand and official seal. Manual Seal. The of Notary

DOCKET NO.: ISPH-0524	PATENT
DATED: 2/1, 2001 SRETT P. MONIA	
State of California) ss.	
County of San Diego)	
On this day of February, 2001, be undersigned, a Notary Public for the state, personal Brett P. Monia, personally known to me/proved to me of satisfactory evidence to be the person who subscriftoregoing Assignment and acknowledged to me that he same in his authorized capacity, and that by his sign Assignment the person, or the entity on behalf of whit person acted, executed the Assignment.	on the basis ibed the executed the nature on the
LANE B.D. SCHWARTZ Commission # 1196197 Notary Public - California San Diego County My Comm. Expires Sep 13, 2002 Signature of Notary	seal.
DATED: 2/13, 2001 ROBERT MCKAY	
State of California)) ss.	
County of San Diego)	
On this 13th day of Library, 2001, be undersigned, a Notary Public for the state, personal Robert McKay, personally known to me/proved to me on satisfactory evidence to be the person who subscribed foregoing Assignment and acknowledged to me that he same in his authorized capacity, and that by his sign Assignment the person, or the entity on behalf of white person acted, executed the Assignment.	lly appeared the basis of d the executed the nature on the

LANE B.D. SCHWARTZ
Commission # 1196197
Notary Public - California
San Diego County
My Comm. Expires Sep 13, 2002

WITNESS my hand and official seal.

DATED: 1/31 , 200

JAMES G. KARRAS

State of California

County of San Diego

ss.

LANE B.D. SCHWARTZ
Commission # 1196197
Notary Public - California
San Diego County
My Comm. Expires Sep 13, 2002

WITNESS my hand and official seal.

Signature of Notary

PATENT

ASSIGNMENT

WHEREAS, I, Susan Freier, of San Diego, State of California, am a joint inventor and have invented a certain invention entitled Alteration of Cellular Behavior by Antisense Modulation of mRNA Processing, for which application for Letters Patent of the United States has been made, said application having been filed December 12, 2000 and assigned Application No. 09/734,847; and

WHEREAS, ISIS Pharmaceuticals, Inc. hereinafter referred to as the assignee, of 2292 Faraday Avenue, Carlsbad CA, a corporation of Delaware, is desirous of acquiring the entire right, title and interest in and to the said inventions or improvements and in and to the said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in any and all countries:

NOW, THEREFORE, for and in consideration of the sum of One Dollar (\$1.00) to me in hand paid by said assignee, and other good and valuable consideration, the receipt of which is hereby acknowledged, I, the said assignors, have sold, assigned, transferred and set over, and by these presents do hereby sell, assign, transfer and set over to said assignee, the entire right, title and interest in and to said inventions or improvements and said application and any and all continuations, divisions and renewals of and substitutes for said application, and in, to and under any and all Letters Patent which may be granted on or as a result thereof in the United States and any and all other countries, and any reissue or reissues or extension or extensions of said Letters Patent, and assign to and authorize said assignee,

PATENT

to file in my name applications for Letters Patent in all countries, the same to be held and enjoyed by said assignee, its successors, assigns, nominees or legal representatives, to the full end of the term or terms for which said Letters Patent respectively may be granted, reissued or extended, as fully and entirely as the same would have been held and enjoyed by us had this assignment, sale and transfer not been made.

AND I hereby covenant that I have full right to convey the entire interest herein assigned, and that I have not executed and will not execute any agreement in conflict herewith, and I further covenant and agree that I will each time request is made and without undue delay, execute and deliver all such papers as may be necessary or desirable to perfect the title to said inventions or improvements, said application and said Letters Patent to said its successors, assigns, nominees, representatives, and I agree to communicate to said assignee or to nominee all known facts respecting said inventions or improvements, said application and said Letters Patent, to testify in any legal proceedings, to sign all lawful papers to execute all disclaimers and divisional, continuing, reissue and foreign applications, to make all rightful oaths, and generally to do everything possible to aid said assignee, its successors, assigns, nominees and legal representatives to obtain and enforce for its or their own benefit proper patent protection for said inventions or improvements in any and all countries.

AND I hereby authorize and request the Commissioner of Patents and Trademarks of the United States and any official of any country or countries foreign to the United States whose duty it is to issue patents on applications as aforesaid, to issue to said

PATENT

assignee, as assignee of the entire right, title and interest, any and all Letters Patent for said inventions or improvements, including any and all Letters Patent of the United States which may be issued and granted on or as a result of the application aforesaid, in accordance with the terms of this assignment.

IN WITNESS WHEREOF, I have hereunto set our hands and seals.

DATED: Sept 14, 2001

Susan Freier

State of California

ss.

County of San Diego

On this A day of Leptentes 2001, before me, the undersigned, a Notary Public for the state, personally appeared Susan Freier, personally known to me/proved to me on the basis of satisfactory evidence to be the person who subscribed the foregoing Assignment and acknowledged to me that she executed the same in her authorized capacity, and that by her signature on the Assignment the person, or the entity on behalf of which the person acted, executed the Assignment.

LANE B.D. SCHWARTZ
Commission # 1196197
Notary Public - California
San Diego County
My Comm. Expires Sep 13, 2002

WITNESS my hand and official seal.